REMARKS

Formal Matters

Amendments to the Specification

The specification is amended at page 54 merely to correct inadvertent typographical errors with respect to use of the term "encoding" for nucleic acids and polypeptides.

No new matter is added by the amendments to the specification.

Claim Amendments

Claims 34-36 are currently pending in the application.

Claim 34 is amended merely to more particularly point out and distinctly claim Applicants' invention of a method of detecting ErbB4 receptor in a sample by contacting the sample with a detectably labeled polypeptide. Support for the amendment is found throughout the specification such as at page 68, lines 12-14 (disclosing a detectable enzyme labeling technique in which an enzyme substrate precursor provides the detectable chromophore or fluorophore); and pages 81, line 23 to page 85, line 15 (Example 4 in which is disclosed (1) a NRG3 polypeptide having a detectable polypeptide fused to it, and (2) a radiolabeled NRG3 polypeptide, which labeled polypeptides are used for the detectable binding to ErbB4 receptor).

Claim 34 is also amended to delete the term "capable of binding" and replace it with "binds" to indicate a characteristic of the polypeptide. Support for the amendment is found throughout the specification, such as, for example, at page 8, lines 9-11; page 20, line 25 to page 21, line 7; page 81-84 (Example 4); Fig. 6; and Fig. 7.

No new matter is added by the amendments to the claims. The amendments present the rejected claims in better form for consideration on appeal, should an appeal become necessary. Admission of the amendments and allowance of the claims is respectfully requested.

SUMMARY

Claims 34-36 are pending in the application.

Amendments to the specification at page 54 are made to correct inadvertent typographical errors with respect to use of the term "encoding."

No new matter is added by the amendments to the claims. The amendments present the rejected claims in better from for consideration on appeal, should an appeal become necessary. Admission of the amendments and allowance of the claims is respectfully requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with Markings to Show Changes Made**".

If the Examiner believes a telephone conference would expedite the prosecution of this application, the Examiner is invited to call the undersigned at the number indicated below.

This response is timely submitted with a transmittal letter. In the unlikely event that these documents are separated from this response, Applicants petition the Commissioner to authorize charging our Deposit Account 07-0630 for any fees required or credits due and any extensions of time necessary to establish and maintain the pendency of this application.

Respectfully submitted,
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Date: June 8, 2001

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at line 22 of page 54 has been amended as follows:

The simplest and most straightforward immunoadhesin design combines the binding region(s) of the 'adhesin' protein with the hinge and Fc regions of an immunoglobulin heavy chain. Ordinarily, when preparing the NRG3-immunoglobulin chimeras of the present invention, nucleic acid encoding an amino acid sequence of the desired NRG3 polypeptide will be fused at the C-terminus encoding portion of the desired sequence to the N-terminus encoding portion of a nucleic acid sequence encoding an immunoglobulin constant domain sequence, however fusion to the N-terminus encoding portion of the desired NRG3 sequence is also possible. Typically, in such fusions the encoded chimeric polypeptide will retain at least functionally active hinge, CH2 and CH3 domains of the constant region of an immunoglobulin heavy chain. Fusions are also made to the C-terminus of the Fc portion of a constant domain, or immediately N-terminal to the CH1 of the heavy chain or the corresponding region of the light chain. The precise site at which the fusion is made is not critical; particular sites are well known and may be selected in order to optimize the biological activity, secretion or binding characteristics of the NRG3-immunoglobulin chimeras.

In the Claims:

Please cancel claims 1-33 and 37-38.

Claim 34 has been amended as follows:

34. (Twice Amended) A method of detecting ErbB4 receptor in a sample, the method comprising:

a) contacting a detectably labeled polypeptide with the sample, wherein the polypeptide comprises an EGF-like domain, the EGF-like domain comprising an amino acid sequence having at least 75% amino acid sequence identity to SEQ ID NO:4, and wherein the polypeptide [is capable of binding] binds to ErbB4 receptor but not ErbB2 receptor or ErbB3 receptor under experimentally comparable conditions; and

b) detecting binding of the polypeptide to a protein in the sample.

Clean Set of All Pending Claims

34. A method of detecting ErbB4 receptor in a sample, the method comprising:

a) contacting a detectably labeled polypeptide with the sample, wherein the polypeptide comprises an EGF-like domain, the EGF-like domain comprising an amino acid sequence having at least 75% amino acid sequence identity to SEQ ID NO:4, and wherein the polypeptide binds to ErbB4 receptor but not ErbB2 receptor or ErbB3 receptor under experimentally comparable conditions; and

b) detecting binding of the polypeptide to a protein in the sample.

35. The method of claim 34 wherein the sample comprises a cell expressing ErB4 receptor on its surface.

36. The method of claim 35 wherein the sample is a mammalian tissue sample.